Folic Acid Awareness Week

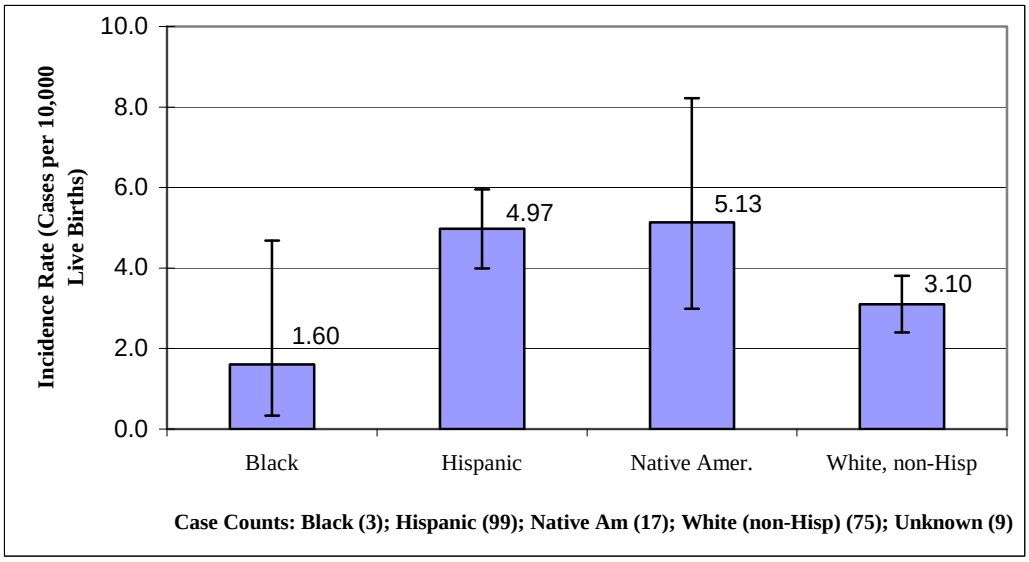
Folic Acid Awareness Week occurs January 5-11, 2009. Physicians and nurses are encouraged to educate patients about the benefits of the vitamin folic acid, particularly its role in preventing spina bifida. Spina bifida is a type of neural tube defect, occurring in the first 28 days of gestation, in which the spinal cord or its surrounding membranes do not close properly. The resulting defect is often accompanied by hydrocephalus, and bladder and limb malfunction. Lifetime economic costs associated with caring for a child with spina bifida range from $500,000 to $1 million.[1]

In 1992, the Centers for Disease Control and Prevention (CDC) recommended that women of childbearing age consume 400 micrograms of synthetic folic acid daily.[2] Then in 1997-1998, the Food and Drug Administration required the addition of synthetic folic acid to enriched cereal-grain products. Fortification was associated with a 34% drop in spina bifida rates in the U.S.[3,4]

Data collected by the ADHS Birth Defects Monitoring Program (ABDMP), which tracks the incidence of neural tube defects, shows that approximately 34 babies are born in Arizona each year with spina bifida. The rate of spina bifida during the pre-folic acid fortification period averaged 4.95 cases per 10,000 live births. The rate post fortification was 4.16 per 10,000 live births.[5] The post/pre prevalence ratio is 0.84 (95% CI: 0.70-1.01). This 16% reduction in Arizona's occurrence of spina bifida falls somewhat short of the 34% decrease seen nationally.

The rates among Arizona's race and ethnic groups show disparities in the incidence of spina bifida. The rate for White non-Hispanics is 3.10 cases per 10,000 live births (Figure). For Native Americans the rate is 5.13 (95% CI: 2.99-8.22) per 10,000 live births. For White Hispanics the rate is 4.97 (95% CI: 3.99-5.95) per 10,000 live births; a statistically elevated rate compared to that of White non-Hispanics.

Figure 1. Race/ethnic rates of spina bifida in Arizona, for a post fortification period, 1999-2004. Bars indicate 95% confidence intervals. Source: AZ Birth Defects Monitoring Program.



Research studies have demonstrated that up to 70% of neural tube defects such as spina bifida and anencephaly can be reduced by taking a folic acid supplement.[6] Recognizing that unplanned pregnancies account for half of all pregnancies in the United States, the CDC and other organizations recommend that all women of child bearing age take 400 micrograms of folic acid daily. Once pregnancy is confirmed, the Institute of Medicine recommends increasing the folic acid consumption. The March of Dimes Foundation notes that most prenatal vitamins on the market contain between 800 and 1,000 micrograms of this essential nutrient.[7]

The average American's diet is deficient in foods that contain natural folate. Dietary folate can be obtained in foods such as green leafy vegetables, beans, orange juice. Until the average diet improves, the best strategy for reducing the occurrence of neural tube defects is to recommend daily intake of synthetic folic acid. Given the disparities in rates, Arizona's Hispanic and Indian population can benefit most significantly from efforts to promote folic acid.

Health care professionals can order educational materials to educate patients year-round from: http://www.cdc.gov/ncbddd/folicacid/health_materials.htm

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[1] Spina Bifida Association. Retrieved October 31, 2008, http://www.spinabifidaassociation.org

[2] CDC. http://www.cdc.gov/mmwr/preview/mmwrhtml/00019479.htm

[3] CDC, National Center for Health Statistics: Trends in spina bifida and anencephalus in the United States, 1991-2005. Retrieved October 31, 2008, from http://www.cdc.gov/nchs/products/pubs/pubd/hestats/spine_anen.htm

[4] Canfield M, et al. National estimates and race/ethnic-specific variation of selected birth defects in the United States, 1999-2001. Birth Defects Research Part A: Clinical and Molecular Teratology, 2006; 76(11), 747-747.

[5] The ABDMP counts both live and stillborn cases in the numerator for its calculations. Data for births in 2004 is preliminary. This post-folic acid fortification rate is calculated for births occurring October 1998 to 2003.

[6] CDC. http://www.cdc.gov/ncbddd/folicacid/faqs.htm

[7] March of Dimes Foundation. Professionals & researchers: Folic acid. Retrieved October 31, 2008, from http://www.marchofdimes.com/professionals/14332_1151.asp